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SURFACE WATER MONITORING RESULTS

DATE: December 9, 2009 **NPDES PERMIT #** ID-002832-1
TO: US EPA Region 10, IDEQ, NMFS, USFWS
FROM: Formation Capital Corp., U.S.
SUBJECT: Fall Quarter 2009, Semi-Annual Surface Water Monitoring

In accordance with the permit requirements of the National Pollutant Discharge Elimination System (NPDES) Permit No. ID-002832-1, samples were collected in the summer quarter 2009 at Formation Capital Corporation's (Formation) Idaho Cobalt Project (ICP). No discharge has occurred at Outfall 001, because the outfall has not been constructed.

SURFACE WATER REVIEW

Water Quality

Water quality grab samples were collected from three surface water sampling sites required for NPDES reporting in October 2009. As required by the permit, results of all surface water monitoring of WQ-24a, WQ-28, and WQ-30 as part of routine monitoring are provided in Table 1. Laboratory analytical reports are available on request.

WQ-24a

Dissolved copper was reported above the maximum MDL as specified in the permit. Dissolved copper was reported in the bottle blank. The concentration of dissolved copper measured in WQ-24a was reported at the same concentration as that in the bottle blank. Dissolved copper concentrations in WQ-24a may be biased high.

WQ-28

Dissolved cadmium and copper concentrations were reported above their respective maximum MDLs as specified in the permit. Dissolved and total recoverable cadmium and selenium concentrations and dissolved copper were reported above the reporting limit in the bottle blank. The dissolved and total recoverable cadmium and selenium concentrations in the sample collected at WQ-28 are within three times the respective values reported in the bottle blank. These analytes may be biased high in the sample collected from WQ-28. Dissolved cadmium and selenium concentrations were greater than their respective total recoverable concentrations.

WQ-30

WQ-30 was added to the monitoring plan to provide data downstream of NPDES Outfall 001, this location meets the requirements described in Section I.D.1.(b) of the permit. Data from this location and WQ-24a, which is upstream of the outfall, will document any potential changes in water quality from the NPDES discharge.

Measured dissolved copper concentrations were reported above the maximum MDL specified in the permit.

TABLE

Table 1 Field and Analytical Results

Analyte	MDL ¹	Laboratory Method	Laboratory MDL ²	Sampling Location		
				WQ-24a 10/7/2009	WQ-28 10/9/2009	WQ-30 10/7/2009
Flow, field (gpm)		--		5386	7181	4937
Arsenic, dissolved	2	EPA 200.7/200.8	6 / 0.02	<10	<10	<10
Cadmium, dissolved	0.1	EPA 200.7/200.8	0.8 / 0.004	<0.1	1.9	<0.1
Cobalt, total recoverable	2	EPA 200.7/200.8	5 / 0.04	<6	<6	<6
Copper, dissolved	1	EPA 200.7/200.8	0.9 / 0.03	4	5	4
Lead, dissolved	0.1	EPA 200.7/200.8	10 / 0.003	<1	<1	<1
Mercury, total recoverable	0.0002	EPA 245.7	0.0009	<0.2	<0.2	<0.2
Nickel, dissolved	5	EPA 200.7/200.8	2 / 0.05	<1	<1	<1
Selenium, total recoverable	2	EPA 200.7/200.8	3 / 0.09	<1	1	<1
Silver, dissolved	0.2	EPA 200.7/200.8	2 / 0.009	<0.1	<0.1	<0.1
Thallium, total recoverable	0.3	EPA 200.7/200.8	50 / 0.02	<5	<5	<5
Zinc, dissolved	10	EPA 200.7/200.8	2 / 0.1	<5	<5	<5
Ammonia-N	1	EPA 350.1	0.02	<50	<50	<50
NO3+NO2 As N			3	<50	410	<50
Sulfate (mg/L)	20	EPA 300.0	0.01	4	7	4
Total Suspended Solids (mg/L)	5	APHA 2540D	1	<3	<3	<3
pH - field (Std. Units)				7.35	7.52	6.95
Dissolved Oxygen, Field (mg/L)				11.89	12.2	12.21
Temperature (Degrees Celsius)				10.44	7.88	
Iron, total recoverable	30	EPA 200.7/200.8	8 / 2	<30	<30	<30
Aluminum, total recoverable	20	EPA 200.7/200.8	40 / 2	<80	<80	<80
Hardness (mg/L)				42	43	42
Chloride (mg/L)	1	EPA 300.0	0.02	0.8	1	0.9
Conductivity, field (mS/m)				9.5	10.4	9.9
Total Dissolved Solids (mg/L)				63	52	70
Other Monitored Parameters						
Acidity, T (mg/L)				<4	<4	<4
Silver, total recoverable				<0.1	<0.1	<0.1
Aluminum, dissolved				<80	<80	<80
Alkalinity, T (mg/L)				42	43	42
Arsenic, total recoverable				<10	<10	<10
Calcium, dissolved				14100	14100	14000
Cadmium, total recoverable				<0.1	0.8	<0.1
Cobalt, dissolved				6	7	7
Copper, total recoverable				5	6	7
Conductivity (mS/m)				10.2	10.8	10.3
Fluoride				890	820	820
Iron, dissolved				<30	<30	<30
Mercury, dissolved				<0.2	<0.2	<0.2
Potassium, dissolved				1000	1000	1000
Magnesium, dissolved				1600	1800	1600
Manganese, dissolved				<5	<5	<5
Manganese, total recoverable				<5	<5	<5
Sodium, dissolved				4000	4000	4000
Nickel, total recoverable				<1	<1	<1
Lead, total recoverable				<1	<1	<1
pH (Std. Units)				7.82	7.89	7.73
Selenium, dissolved				<1	4	<1
Turbidity - field (NTU)				0.24	0.26	0.46
Zinc, total recoverable				<5	<5	<5

all units are ug/L unless otherwise noted

¹ Maximum Method Detection Limit as specified in the permit

² Maximum Method Detection Limit for Energy Laboratory may change yearly with certification.

FIGURE

